

between the two united upper lobes shallow: pods large, linear, 8-10^{mm} long, about 7^{mm} wide, finely pubescent when young, obscurely so when mature, from nearly straight and erect when young to divaricate and slightly curved when mature, 10-15-seeded.

It is found near streams, preferring the moist, rich soil among the open underbrush. Type specimens in Herb. Univ. of Wyo., no. 3424 by Elias Nelson, Pole creek, July 22, 1897; and no. 3903 by the writer, Johnson's ranch, Big Laramie river, August 8, 1897.

✓*Thermopsis arenosa*, n. sp.—Smaller in every way: stems from the persistent branched bases more numerous, branching and habit similar, 3-4^{dm} high: leaflets proportionately wider, from oblong or oblanceolate to obovate, 3-4^{cm} long, 1-2.5^{cm} wide; stipules longer than the petioles, broad, from ovate to suborbicular: fruiting racemes shorter: pods inclined to be divaricate from the first, shorter, at maturity constricted between the fewer large seeds.

These two species are very different in seasonal development and habitat. This last is very abundant in the Laramie hills in dry, open, sandy, or stony draws and ravines. Heretofore confused with *T. rhombifolia* from which it differs in its larger leaflets, longer stipules, its strictly terminal raceme and its curved, divergent, loment-like pod.

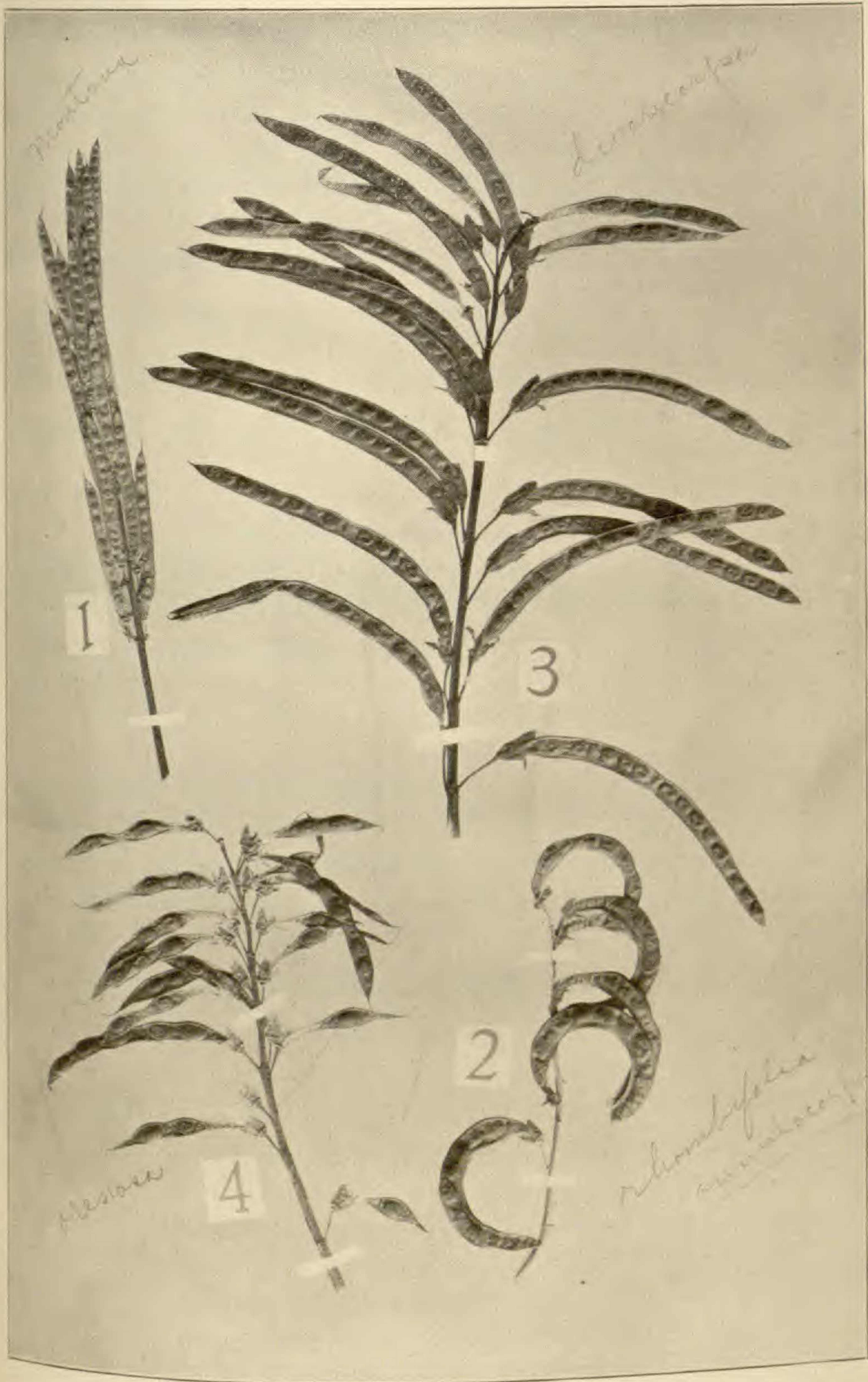
Type specimen in Herb. Univ. of Wyo., no. 3182, Laramie hills, June 16, 1897; fruit from the same locality July 17, 1897. Others nos. 122 and 1240.—AVEN NELSON, *The University of Wyoming*.

EXPLANATION OF PLATE XVIII.

- FIG. 1. *Thermopsis montana* Nutt. FIG. 2. *T. rhombifolia* Rich. FIG. 3. *T. divaricarpa* Aven N. FIG. 4. *T. arenosa* Aven N.

NOTES ON THE BOTANY OF THE SOUTHEASTERN STATES. I.

HAVING the opportunity to study a considerable collection of plants gathered mainly during the past few years at various stations in the southeastern United States, I have decided to publish at intervals the results of the investigation so far as they relate to species that appear to be either undescribed, unrecorded in the recognized flora of the region, or of too restricted geographical range as indicated in recent literature on the subject. In the present paper one species is proposed



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as new, one is raised to specific standing, two suppressed species are restored, and the heretofore recorded range of others greatly extended.

PHILADELPHUS LATIFOLIUS Schrad. DC. Prodr. 3: 206. 1828.—An ignored and much confused species closely related to the European *P. coronarius* L. Abundant material in fruit collected on the rocky banks of the Cumberland river near Nashville, Tennessee, August 17, 1897, so clearly illustrates the validity of the species that I concur with Engler⁹ in his statements regarding it, especially as to its frequent occurrence in cultivation and the confusion of American botanists. However, I know no other habitat than middle Tennessee. Torrey and Gray¹⁰ referred all of Schrader's species published in the Prodr¹¹ to *P. grandiflorus* Willd., or to forms of the same, a position not wholly sustained by recent writers, and their variety *floribundus* is truly the species at issue.

Philadelphus latifolius differs from *P. grandiflorus* in bearing flowers in naked racemes (sometimes a lower pair axillary) 5-9 but mostly 7-flowered, by the much smaller capsules; narrower, more pubescent calyx lobes; the 5-nerved leaves, which on young shoots are large and broadly ovate; and by the light colored bark. I have seen a flowering specimen of this fine species in the *Philadelphus* material of the National Museum, collected by Dr. Gattinger in 1888 from the same locality and distributed by A. H. Curtiss as *P. hirsutus* Nutt., where it is associated with fruit of the last named species. It is very common on the limestone bluffs of the Cumberland river in middle Tennessee, and its distribution will doubtless be found to cover a much wider area when the species is better known.

✓ *RUDBECKIA PINNATILOBA* (Torrey & Gray).

R. triloba pinnatiloba Torr. & Gray, Fl. 2: 309. 1841-1843.

Heretofore known only from the state of Florida, where it was collected and distributed by Dr. Chapman. On August 2, 1897, quantities of the same distinct plants were found on the dry slopes of Cedar Cliff mountain, Buncombe county, North Carolina, that match the Florida material as represented by the Chapman specimens at Biltmore, and, according to Dr. Small, similar material at Columbia University. From a study of the material, which embraces a large

⁹ Die natürlichen Pflanzenfamilien III. 2a: 71. 1891.

¹⁰ Flora N. Am. 1: 595. 1838-1840.

¹¹ DC. Prodr. 3: 205-206. 1828.

range of specimens, I am persuaded the plants should be regarded in full standing. The only other name that has been applied to the species, it seems, is *R. biennis* Chapm. in MSS., as cited by Torrey & Gray. *Rudbeckia pinnatiloba* not only differs from *R. triloba* in the form of the leaves, but by its lesser size, more pubescent stem, smaller heads and earlier time of flowering.

JUNCUS TRIFIDUS L. Spec. Pl. 326. 1753.—From the published statements regarding the range of this species it would seem that no authentic stations south of New York have been recorded. On July 8, 1897, and several days later, *Juncus trifidus* was found in abundance growing from the crevices of the rocks on the summit of Craggy mountain (2000^m elevation), Buncombe county, North Carolina.

Polymnia lævigata, n. sp.—Perennial herb, 0.5 to 1^m high, slender, branching: leaves thin-membranaceous, the upper deltoid-ovate with edges irregularly lacinate-dentate and the apex long acuminate; the lower broadly oval in outline, pinnately 5-7-lobed, the divisions acuminate; the upper surface along the veins puberulent, below minutely resinous atomiferous; upper surface of the petioles and a broad line along the stem and branches more or less purple and puberulent, especially at the nodes: heads loosely paniculate, nodding, light yellow: rays 3-5: ligule 3-lobed and almost white: achenes sparingly puberulent to glabrous, 5-costate and with an elevated epigynous disk at the summit: disk flowers campanulate, abruptly contracted into a long narrow tube, the lobes fimbriate and acute: the outer scales obovate, the inner oblanceolate, more or less fringed.

A most remarkable and distinct species collected at Cowan, Tennessee, August 21, 1897, and finding its nearest relative in *P. Canadensis radiata* Gray, from which it may be separated by the long acuminate lobes of the leaves, the 5-costate achenes, smaller size and almost glabrous stems and leaves.

VIOLA TENELLA Muhl. Cat. 26. 1813.—I cannot feel that there is any doubt about this species being truly indigenous. In rich, but shallow soil, on the rocky summit of Cedar Cliff mountain (1130^m elevation), Buncombe county, North Carolina, *Viola tenella* was found in flower, April 9, and again May 11, 1897, in fruit. In this situation, where there is but the remotest possibility of adulteration of the flora, the species is most abundantly represented. An interesting

note in this connection is preserved in the Chapman Herbarium, where it is associated with material collected in the cedar barrens of Tennessee, and written by Dr. Gattinger, as follows: "Can it possibly be an introduced plant! Is one of the characteristic spring plants of the cedar barrens."

AMORPHA GLABRA Desf. Cat. h. Par. 192. 1804.—Much uncertainty regarding the genus *Amorpha* as represented in the south Atlantic states is plainly displayed by writers, and with a view to clearing away some of this uncertainty I propose the restoration of a neglected species. Torrey & Gray¹² give a description of *A. Caroliniana* Croom (*A. cynostachya* Curtis), a name they replace on page 690 of the same work by *A. glabra* Desf., and it is remarkable that this plant should in later times be associated with *A. fruticosa* L.¹³ I have not at hand the original description of Desfontaines, and that in the *Prodromus*¹⁴ is at best poorly applicable to Croom's *A. Caroliniana*, but on the evidence of Torrey & Gray, as above cited, I adopt the name and append a more tenable description.

A suffrutescent perennial, 1–1.5^m high, nearly glabrous. Stems several, slender, erect or ascending and leafy throughout, purplish and more or less verrucose: leaves 1.5–2^{dm} long, 3–4^{cm} wide: leaflets 12–20 pairs, oblong or elliptical, petiolulate, stipellate, punctate and apiculate by the excurrent midrib: spikes 1.5–2^{dm} long, paniced, densely flowered: calyx glandular, more or less villous on the margins of the unequal or dissimilar teeth, short pedicelled and the tube furrowed: vexillum violet blue: style hairy: pod one-seeded, 4–5^{mm} long, 2^{mm} broad, glandular roughened, the dorsal suture straight.—Low, sandy pine barrens from North Carolina to Florida as shown by specimens in the Biltmore Herbarium.

A. glabra may be distinguished from *A. herbacea* Walt., to which it is very closely related, by its smoothness, more slender habit, and bright colored flowers; from *A. virgata* Small by the diminutive legumes, smaller and twice as numerous leaflets; and from *A. fruticosa* by the straight dorsal suture of the small, one-seeded pods. I have observed no intermediate forms that would warrant the consideration of *A. glabra* as a variety of *A. herbacea*.

STYLOSANTHES RIPARIA Kearney, Bull. Torr. Bot. Club 24: 565. 1897.
—Specimens that agree substantially with the characters assigned to

¹²Flora N. Am. 1: 305. 1838–1840.

¹⁴DC. Prodr. 2: 256. 1825.

¹³SERENO WATSON, Bibliog. Index 188. 1878.